

EXTERNAL CAVITY LASER APPARATUS WITH INDEPENDENT TUNING OF LASER WAVELENGTH
AND CAVITY OPTICAL PATH LENGTH

ABSTRACT OF THE DISCLOSURE

An external cavity laser apparatus and method wherein wavelength or channel selection is carried independently from adjustment of external cavity optical path length. The apparatus comprises a wavelength or channel selector tuner and an external cavity tuner, wherein the wavelength tuner is uncoupled from the external cavity tuner. The tuning mechanisms for wavelength selection and cavity optical path length are configured to operate independently or orthogonally with respect to each other. The wavelength tuner may operate according to a first, channel selection signal, while the external cavity tuner operates according to a second, external cavity adjustment signal. The wavelength tuner and external cavity tuner may operate under the control of the same, or of separate controllers. The channel selection signal may be derived from a look-up table of adjustment parameter data accessed by a controller, and the external cavity adjustment signal may be derived from an error signal from a detector configured to measure external cavity loss.